

WHAT IS CLAIMED IS:

1           1. A system for wirelessly activating an appliance, the appliance  
2 responding to one of a plurality of transmission schemes, the system comprising:  
3                 a receiver operative to receive a radio frequency activation signal;  
4                 a transmitter operative to transmit a radio frequency activation signal;  
5                 at least one user activation input, each activation input identifying a  
6 wireless channel;

7                 memory holding data describing a plurality of rolling code  
8 transmission schemes associated with a rolling code mode and a plurality of fixed  
9 code transmission schemes, at least one fixed code transmission scheme associated  
10 with each of at least one fixed code mode; and

11                 control logic in communication with the receiver, the transmitter, the  
12 at least one user activation input and the memory, for each channel the control logic  
13 maintaining a channel mode set initially to a rolling code mode, the channel mode  
14 changing to one of the at least one fixed code mode if the channel is trained to a  
15 fixed code in response to receiving a signal transmitted from an existing transmitter,  
16 the control logic in response to an assertion of the user activation input associated  
17 with the channel generating and transmitting an activation signal based on each  
18 transmission scheme associated with the mode maintained for the channel.

1           2. The system of claim 1 wherein the at least one fixed code  
2 mode is a single fixed code mode.

1           3. The system of claim 1 wherein the at least one fixed code  
2 mode is a plurality of fixed code modes.

1           4. The system of claim 3 wherein each fixed code has a code size  
2 and wherein the control logic determines the fixed code channel mode based on the  
3 code size of the fixed code used to train the channel.

1               5.     The system of claim 3 wherein the receiver is operative to  
2 identify a carrier frequency of a received signal and wherein the control logic  
3 determines the fixed code mode based on the identified carrier frequency.

1               6.     The system of claim 3 wherein the control logic determines  
2 the channel mode as one of the fixed code modes through guess-and-test user  
3 interaction.

1               7.     The system of claim 1 wherein the channel mode may be reset  
2 to rolling code mode.

1               8.     The system of claim 1 further comprising a data port operative  
2 to download data describing at least one scheme into the memory.

1               9.     The system of claim 1 wherein the control logic generates and  
2 transmits activation signals based on a popularity of schemes, thereby reducing an  
3 average activation latency time.

1               10.    The system of claim 1 wherein the memory holds data  
2 representing a carrier frequency for each transmission scheme whereby a user does  
3 not manually enter frequency information.

1               11.    The system of claim 1 wherein the memory holds a different  
2 counter value for each of the plurality of rolling code transmission schemes.

1               12.    A method of controlling an appliance activated by a radio  
2 frequency activation signal described by a transmission scheme, the transmission  
3 scheme one of a plurality of possible transmission schemes including a plurality of  
4 rolling code transmission schemes and a plurality of fixed code transmission  
5 schemes, the method comprising:  
6                      establishing a mode as rolling mode;

7                   if a fixed code in a radio frequency activation signal received from  
8 an existing transmitter is detected, storing the detected fixed code and changing the  
9 mode to fixed mode;  
10                  receiving an activation request from a user;  
11                  if the mode is rolling mode, generating and transmitting a sequence  
12 of activation signals, each activation signal based on one of the plurality of rolling  
13 code transmission schemes; and  
14                  if the mode is fixed mode, generating and transmitting at least one  
15 activation signal, each of the at least one activation signal based on one of the  
16 plurality of fixed code transmission schemes, each of the at least one activation  
17 signal including the stored fixed code.

1                 13. The method of claim 12 wherein the at least one transmitted  
2 fixed code activation signal is a plurality of fixed code activation signals.

1                 14. The method of claim 13 wherein each of the plurality of fixed  
2 code transmission schemes is used to generate at least one of the plurality of fixed  
3 code activation signals.

1                 15. The method of claim 13 wherein each of a subset of the  
2 plurality of fixed code transmission schemes is used to generate at least one of the  
3 plurality of fixed code activation signals.

1                 16. The method of claim 15 wherein membership in the subset is  
2 based on a size of the stored fixed code.

1                 17. The method of claim 15 wherein membership in the subset is  
2 based on a carrier frequency of the radio frequency activation signal received from  
3 the existing transmitter.

1                 18. The method of claim 15 wherein the subset is determined from  
2 a plurality of subsets by user guess-and-test interaction.

1                   19.     The method of claim 12 wherein the at least one transmitted  
2     fixed code activation signal is one fixed code activation signal.

1                   20.     The method of claim 12 further comprising resetting the mode  
2     to rolling mode based on user input.

1                   21.     The method of claim 12 further comprising learning at least  
2     one transmission scheme through a data port.

1                   22.     The method of claim 12 wherein an order in the sequence of  
2     activation signals is established based on the popularity of each of the rolling code  
3     transmission schemes.

1                   23.     The method of claim 12 wherein each rolling code  
2     transmission scheme includes a separate counter value, each counter value used to  
3     generate a rolling code value.